

Transmitted by Poland

Informal document GRE-81-22
(81st GRE, 15-18 April 2019,
agenda item 4)

Simplification of the UN Lighting and Light-signalling Regulations

Poland - response to request SLR for advice

WP.29/2018/158/Rev.1

YESTERDAY

- R112 Class A
- Class B
- Class AR
- Class BR
- R98 Class DC
- Class DR
- R123 Class C
- Class E
- Class V
- Class W
- Class XR
- ADB
- R113 Class AS
- Class BS
- Class CS
- Class DS
- Class ES
- Class R-BS
- Class R-CS
- Class R-DS
- Class R-ES
- R19 Class B-F3
- R119 Class K

6 Regulations
24 Beam patterns

TODAY (RID "Stage 1")

- Class A
- Class B
- Class AR
- Class BR
- Class DC
- Class DR
- Class C
- Class E
- Class V
- Class W
- Class XR
- ADB
- Class AS
- Class BS
- Class CS
- Class DS
- Class ES
- Class R-BS
- Class R-CS
- Class R-DS
- Class R-ES
- Class F3
- Class K

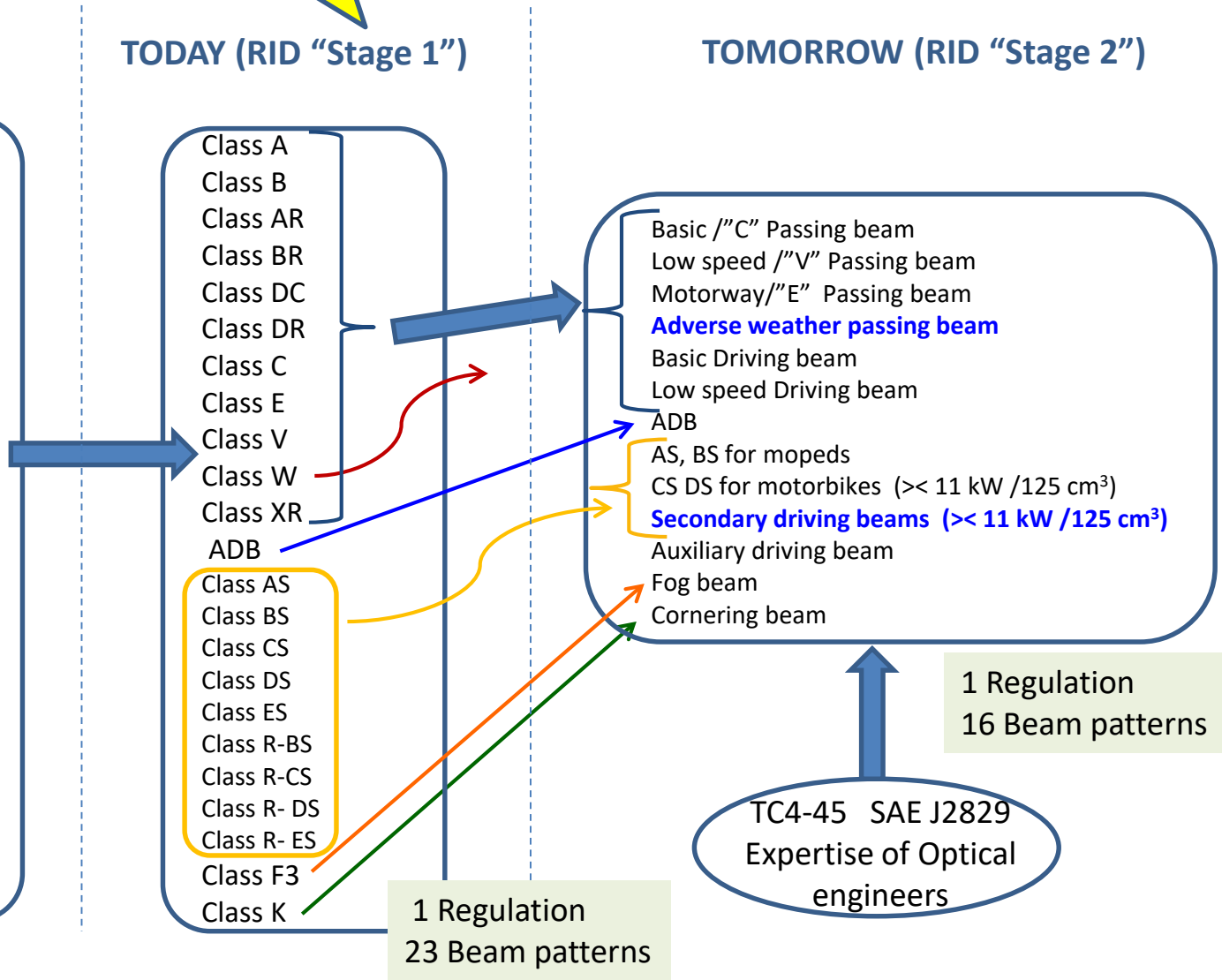
1 Regulation
23 Beam patterns

TOMORROW (RID "Stage 2")

- Basic /"C" Passing beam
- Low speed /"V" Passing beam
- Motorway/"E" Passing beam
- Adverse weather passing beam**
- Basic Driving beam
- Low speed Driving beam
- ADB
- AS, BS for mopeds
- CS DS for motorbikes (> 11 kW /125 cm³)
- Secondary driving beams (> 11 kW /125 cm³)**
- Auxiliary driving beam
- Fog beam
- Cornering beam

1 Regulation
16 Beam patterns

TC4-45 SAE J2829
Expertise of Optical engineers



Poland advice RID

Clear justification needed why it is still needed **16 beam patterns ?**

- **Basic** (passing beam) – what does „Basic” mean? What is max. speed for basic?
- **Low speed** - which speed? Why?
- **Motorway** – is Basic sufficient for motorway or not?

Should be Basic forbidden for motorway driving?

Poland advice RID

- **Adverse weather** passing beam – is the Basic passing beam sufficient during adverse weather?

If **yes** – anything more than Basic is not needed (up to manufacturer – no need to regulate).

If **not** - will be Adverse weather mandatory for performance based RID ?

- Is **Fog lamp** = Adverse weather?

If not who and how will decide regarding use of Adverse weather?

Poland advice RID

- **Basic Driving beam**

What is the difference for safety between Basic passing beam and Driving beam?

(Is Basic passing beam sufficient for safety?

If not the other performance based solution is needed)

Is the need to regulate driving beam?

(Cancel glare restriction only ?)

- **Low speed Driving beam** – is Basic or Low speed passing beam insufficient ?

Poland advice RID

ADB - if Basic passing beam is sufficient than is no need to define ADB – it can be industry standard and have to meet Basic passing beam only. If not the new attempt to **safety/performance** headlighting needed

AS, BS for mopeds? - Why low speed Passing is insufficient?

Poland advice RID

- **Secondary driving beams** ($>< 11 \text{ kW} / 125 \text{ cm}^3$)
 - What is the purpose?
Is the Basic passing beam (or Basic driving beam???) insufficient?
- **Auxiliary driving beam** – as above.
- **Cornering beam** - OK

Installation requirements after SLR step 1 Regulation RID



Class B, BR
 Class DC, DR
 Class C
 Class E
 Class V
 Class W
 Class XR
 ADB
 Class F3
 Class K

R48



Class A, AR
 Class B, BR
 Class DC, DR
 Class AS
 Class BS, R-BS
 Class CS, R-CS
 Class DS, R-DS
 Class ES, R-ES
 Class F3
 Class K

R86



R74

< 50 Km / h

AS
 BS, R-BS
 CS, R-CS
 DS, R-DS
 ES, R-ES
 A, AR
 B, BR



R53

<125 cm³

CS, R-CS
 DS, R-DS
 ES, R-ES
 Class B, BR
 Class DC, DR
 F3



>125 cm³

2 x CS, 2 x R-CS
 DS, R-DS
 ES, R-ES
 A, AR
 B, BR
 DC, DR
 F3

GREEN colour means «optional»
 BLACK colour means «mandatory»

Should the beam requirements be based on the category of the vehicle?

Poland advice RID

- We don't see the need to generate **design based** special beams for two-wheelers, tractors, machinery, etc.
- The **performance oriented** is visibility **distance** and **width** directly connected with **speed** and stopping distance + effective protection against **glare**

Poland advice RID

There are needed:

1. Basic beam

1A. Low (which?) speed – preferred **max. speed**
assigned to **Basic** type approval

2. Adverse weather or fog ?? – if Basic is not sufficient.

3. Cornering as supporting comfort

The rest RID should meet Basic or Low speed.

If not sufficient more safety details needed.

GRE advice needed (1/3)

Is it OK to continue having the headlamp provisions expressed on the basis of luminous intensities equivalent to illuminance measured on screen at a distance of 25m?

Poland advice (1/3)

Is it is incorrectly stated question (**OK** or **NOT OK**).

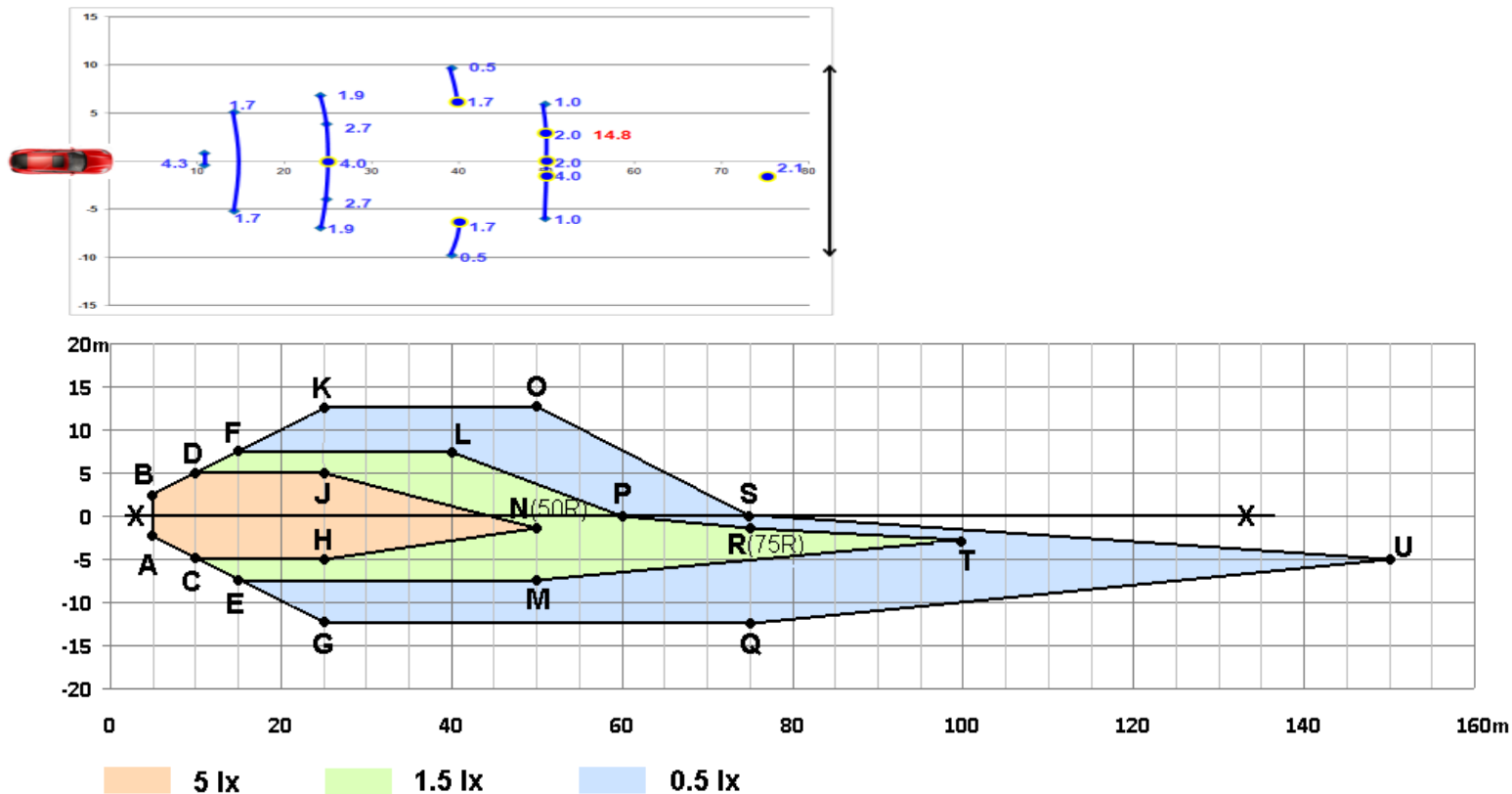
Provisions should be adequate **to performance** for road illumination and glare exposed eyes area – not for the screen.

For testing it is possible to use equivalent coordinate system – e.g. goniometer angular and intensities. There is no problem to recalculate.

Poland questions to SLR (or GTB?)

idea for RID

(expressed in SLR 28-02)



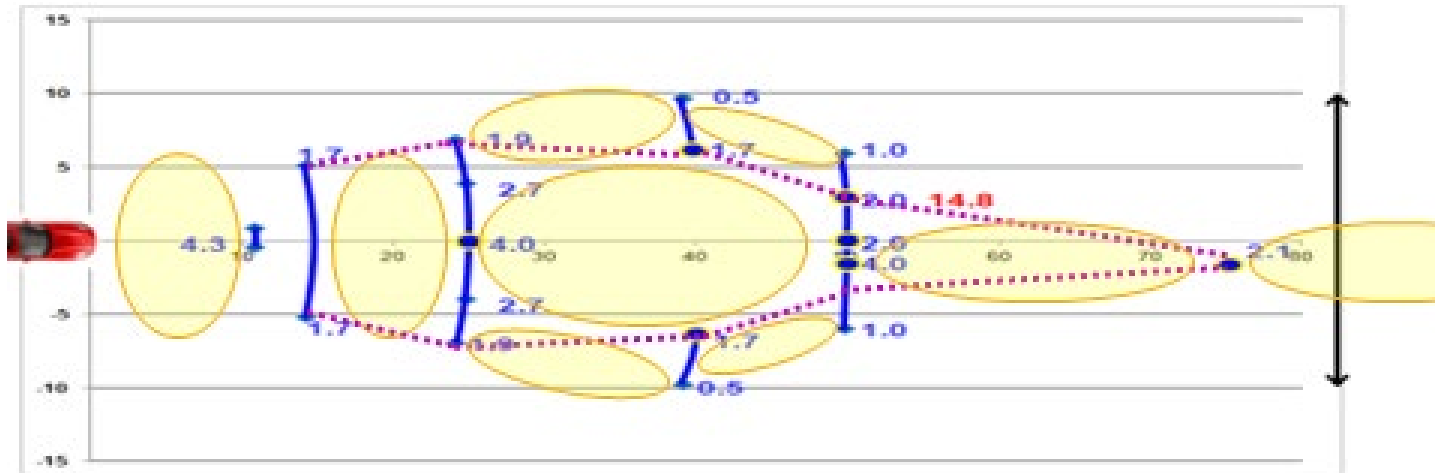
Poland questions to SLR (or GTB?) idea for RID

Clear and detailed justification to each proposed value is expected

- Regarding performance, what does 1.7 lx mean and why it differs from 1.9 lx or 2.0 lx or 1.0 lx or 0.5 lx or 4.0 lx etc?
- Doubt about the distances and widths chosen e.g. why only outside for 40 m etc.
- Why is the required value in point 75R is increased by 20%?
What does this mean for performance (increase distance or other values in relation to safety)?

Poland questions to SLR (or GTB?) idea for RID

Doubt regarding holes in illumination requirements.



Are holes in light distribution allowed?

Poland questions to SLR idea of RID

- Should the **true performance** requirements with higher expectations than today be met by all present technologies?
- Does the proposal restrict any existing headlamp design which are today legal ?

Poland advice to SLR idea of RID

- New attempt for glare suggested. Allow to vertical non-uniform intensity instead of fixed value for glare zone.
Intensity may decrease with increasing vertical angle (higher above cut-off than today)
- No reasons for preserving screen points and segments philosophy directly taken from the historical requirements **based on parabolic design.**

THANK YOU FOR ATTENTION